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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/519,112

12/23/2004

Ole Kaac Hansen

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EXAMINER

CLARK, AMY LYNN

ART UNIT

PAPER NUMBER

1655

MAIL DATE

DELIVERY MODE

02/07/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/519,112	Applicant(s) HANSEN, OLE KAAE	
	Examiner Amy L. Clark	Art Unit 1655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 31 October 2007 has been entered.

Response to Arguments

Claim Rejections - 35 USC § 103

Claims 1, 2 and 4-8 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Oura et al. (A*, US 4,229,483), in view of Noller (U*, Ann Rev Biochem. 1945; 14: 383-406) and Vogel et al. (V*, "Fermentation and Biochemical Engineering Handbook-Principles, Process Design and Equipment (2nd Edition)").

This rejection is maintained for reasons of record set forth in the paper mailed on 14 September 2007 and repeated below, slightly altered to take into consideration Applicant's amendment filed on 24 September 2007.

Applicant's arguments have been thoroughly considered, but the rejection remains the same for the reasons set forth in the previous Office action and for the reasons set forth below.

Oura teaches a method of preparing an aqueous extract of fine shea nut meal (please note that shea nut meal is a saponin-containing waste product from a shea butter tree and that the shea nut meal is filtered and ground prior to extraction, See column 2, lines 48-51 and lines 55-66) comprising washing the shea nut meal with water, wherein the amount of water is more than 2.5 times as much as volume of the shea nut meal (See column 3, lines 22-24), mixing the shea nut meal with a 10-99% (w/v) aqueous ethanol solution, whereby the alcohol solution may be used in an amount of 0.05 to 5 times as much as the volume of shea nut meal (See column 3, lines 29-30 and 33-35) in the presence of an alkali, wherein the alkali is used in the form of an aqueous solution (See column 3, lines 59-68 and continued into column 4, lines 1-8), which reads on buffer, at a pH of 7.15 or 7.41 (See column 6, table 2) and the solids can be removed by filtration from a liquid medium (See column 7, Example 32). Oura further teaches the washing of the shea nut meal can be carried out at a temperature of 10 to 80 °C (See column 3, lines 19-22) and that treatment with an alcohol solution can be carried out a temperature of 10 to 80 °C or by soaking the shea nut meal in the alcohol solution for a period of 30 minutes to overnight (See column 3, lines 30-39). Oura further teaches that the solution can be treated to 100 to 160 °C for a period of 10 to 60 minutes (See column 3, lines 40-45). Oura further teaches that the solution can be filtered under reduced pressure and after cooling the solution, the shea nut meal may be dried and/or ground (See column 3, lines 55-58). Oura further teaches that the shea nut meal treated by heating is present in a solution in an amount of up to 10% by weight, usually in a range of 0.5-5% by weight and may be used in a large amount (See

column 5, lines 2-6). Oura further teaches that the coloring composition may be in the form of a powder, pellets, a slurry, an emulsion, an aqueous suspension or the like (See column 4, lines 46-54). Oura further teaches that shea nut meal may be treated with a medium, such as water, wherein the water used is in an amount of more than 2.5 times and 0.05 to 5 times, respectively, the amount of the shea nut meal to be treated (See column 9, claim 1). Oura further teaches that the solution of water and shea nut meal may be subject to heat treatment and the heat treatment may be carried out in the presence of a 1-10% by weight 1N aqueous solution of acid (See column 9, claims 2-4 and continued into column 10). Oura does not expressly teach that the aqueous extract contains saponins, however, saponins are inherent to shea nut press cake (See Noller, page 385), which is synonymous with shea nut meal.

Oura does not teach a step of filtration or centrifugation. However, Vogel teaches that solid liquid separation process can be accomplished by filtration or centrifugation (See page 558). Vogel further teaches that evaporation is the removal of a solvent as a vapor from a solution or slurry and that the demanded of an evaporator is to concentrate a feed stream by removing a solvent which is vaporized in the evaporator and, for the greatest number of evaporator systems, the solvent is water and that the "bottoms" product is a concentrated solution, a thick liquor, or possibly a slurry and is most usually the desired and valuable product (See page 476).

The teachings of Oura, Noller and Vogel are set forth above and applied as before. Oura does not expressly teach a method for preparing saponins, nor does Oura teach a step of filtration or centrifugation, nor does Oura teach an incubation step is

performed at a temperature of between 15 and 95 °C and over a period of between 10 minutes and 5 hours, nor does Oura teach removing solids by centrifugation, nor does Oura teach obtaining an extract containing at least 1 % by weight dry matter, nor does Oura teach further concentrating the shea nut meal by evaporation. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method taught by Oura to provide the instantly claimed invention because at the time the invention was made, it was known in the art that an aqueous extract of shea nut contains saponins, as clearly taught by Noller, as was a method of obtaining an aqueous extract of shea nut meal comprising the steps of washing the shea nut meal with water, wherein the amount of water is more than 2.5 times as much as volume of the shea nut meal, mixing the shea nut meal with a 10-99% (w/v) aqueous ethanol solution, whereby the alcohol solution may be used in an amount of 0.05 to 5 times as much as the volume of shea nut meal in the presence of an alkali, wherein the alkali is used in the form of an aqueous solution and the solids can be removed by filtration from a liquid medium. It was also known that washing the shea nut meal can be carried out at a temperature of 10 to 80 °C and that treatment with an alcohol solution can be carried out a temperature of 10 to 80 °C or by soaking the shea nut meal in the alcohol solution for a period of 30 minutes to overnight, that the solution can be treated to 100 to 160 °C for a period of 10 to 60 minutes, that the solution can be filtered under reduced pressure and after cooling the solution, the shea nut meal may be dried and/or ground and that the shea nut meal treated by heating is present in a solution in an amount of up to 10% by weight, usually in a range of 0.5-5% by weight and may be

used in a large amount, as was that solid liquid separation process can be accomplished by filtration or centrifugation.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method taught by Oura to provide the instantly claimed invention because it would have been merely a matter of judicious selection to one of ordinary skill in the art at the time the invention was made to modify the referenced composition because it would have been well in the purview of one of ordinary skill in the art practicing the invention to pick and choose a temperature and time period over which a solution is incubated, to pick and choose a method of obtaining a saponin-rich extract of shea nut meal by separating solids from a liquid solution, to pick and choose an amount of dry matter present in an extract and to pick and choose a suitable method for obtaining or drying (evaporating the solvent from) the shea nut meal extract, as clearly taught by Oura and Vogel. Furthermore, since centrifugation is a suitable alternative to filtration for separating solids from liquids and concentration by evaporation is a suitable method for drying or concentrating a solution, as was well known in the art at the time the invention was made, as clearly taught by Vogel, the claimed invention is no more than the routine optimization of a result effect variable.

Finally, one of ordinary skill in the art would have been motivated and one would have had a reasonable expectation of success to modify the method taught by Oura because at the time the invention was made, it was known that an aqueous extract of fine shea nut meal inherently contains saponins, as taught by Noller, and all of the method steps are taught by both Oura and Vogel. Therefore, it would have been merely

a matter of judicious selection to one of ordinary skill in the art at the time the invention was made to modify the referenced composition because it would have been well in the purview of one of ordinary skill in the art practicing the invention to pick and choose a temperature and time period over which a solution is incubated, to pick and choose a method of obtaining a saponin-rich extract of shea nut meal by separating solids from a liquid solution, to pick and choose an amount of dry matter present in an extract and to pick and choose a suitable method for obtaining or drying (evaporating the solvent from) the shea nut meal extract.

Based upon the beneficial teachings of the cited references, the skill of one of ordinary skill in the art, and absent evidence to the contrary, there would have been a reasonable expectation of success to result in the claimed invention.

Accordingly, the claimed invention was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, especially in the absence of evidence to the contrary.

Applicant's arguments have been considered but are not found persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, please note that

Applicant is claiming a method of preparing saponins comprising the method steps taught by Oura. Due to the fact that the method steps are taught, the newly applied limitations recited in the claims do not distinguish the method as taught by Oura, in combination with Noller and Vogel, from Applicant's claimed invention, particularly since the claimed invention arrives at an aqueous extract containing saponins. Therefore, the Examiner has provided motivation to combine the cited references and the combined references teach each and every element of Applicant's claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy L. Clark whose telephone number is (571) 272-1310. The examiner can normally be reached on 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terry McKelvey can be reached on (571) 272-0775. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Amy L. Clark
AU 1655

Amy L. Clark
January 28, 2008

A handwritten signature in black ink, reading "Terry McKelvey". The signature is written in a cursive, flowing style.

TERRY MCKELVEY, PH.D.
SUPERVISORY PATENT EXAMINER